[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0228; Directorate Identifier 2012-NE-09-AD; Amendment 39-17179; AD 2012-18-03]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Division Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Pratt & Whitney Division PW4000-94" and PW4000-100" turbofan engines having a 1st stage high-pressure turbine (HPT) seal support, part number (P/N) 55K601 (contained within assembly P/N 55K602-01) or P/N 50K532 (contained within assembly P/N 50K530-01), installed. This AD was prompted by 58 reports of cracked 1st stage HPT air seal rings, including 15 in-flight engine shutdowns. This AD requires removal and replacement of the 1st stage HPT seal support and inspection of the 1st stage HPT air seal ring. We are issuing this AD to prevent failure of the 1st stage HPT air seal ring, which could lead to an internal oil fire, uncontained engine failure, and damage to the airplane.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-7700; fax: 860-565-1605. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: James Gray, Aerospace Engineer, Engine & Propeller Directorate, FAA, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7742; fax: 781-238-7199; e-mail: james.e.gray@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM published in the Federal Register on April 20, 2012 (77 FR 23637). That NPRM proposed to require removal and replacement of the 1st stage HPT seal support and inspection of the 1st stage HPT air seal ring.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and the FAA's response to each comment.

Support for the NPRM

Commenter The Boeing Company supports the contents of the proposed AD (77 FR 23637, April 20, 2012) as written.

Request to Add Credit for Prior Compliance

FedEx Express (FedEx) requested that the AD include credit for previous compliance.

We agree. We added "Comply with this AD the next time the HPT module is removed from the engine, unless already done" to paragraph (e) of the AD.

Request to Change Compliance to Next Piece-Part Exposure

FedEx requested that we clarify that the required removal and inspections occur when the part is completely disassembled and at the piece-part level.

We do not agree. Removal of the 1st stage HPT seal support and inspection of the 1st stage HPT air seal ring are required when the HPT module is removed from the engine, which is not necessarily when the parts are at the piece-part level. Performing the actions the next time the HPT module is removed is required to maintain an acceptable level of safety for the fleet. We did not change the AD.

Request to Add the P/N of the Affected 1st Stage HPT Air Seal Ring

Lufthansa Technik AG requested that we add the P/N of the 1st stage HPT air seal ring that requires inspection to paragraph (e)(2) of the proposed AD (77 FR 23637, April 20, 2012). The commenter states that there are two air seals in this area of the engine and clarification would help avoid confusion over which one requires inspection.

We agree. We revised paragraph (e)(2) of the AD to include 1st stage HPT air seal ring, P/N 50L664.

Request to Change Compliance Time

Martinair requested that paragraph (e) of the proposed AD (77 FR 23637, April 20, 2012) be changed from "…the next time that the engine is separated at the M-flange and the HPT module is removed from the engine" to "… the next time the HPT module is removed from the engine." The commenter states that the wording is confusing and may be interpreted that one is allowed to separate the engine at the M-flange, without

intending to remove the HPT module from the engine, and therefore the support would not require replacement.

We agree. Including reference to the M-flange is redundant and not required, since the M-flange must be separated for the HPT module to be removed from the engine. We changed paragraph (e) of the AD to "comply with this AD the next time that the HPT module is removed from the engine."

Request to Reference the Latest Service Information

Pratt & Whitney (P&W) requested that the AD reference the latest versions of service bulletins (SBs) PW4ENG 72-721 and PW4G-100-72-166 because they were revised since the proposed AD (77 FR 23637, April 20, 2012) was published.

We disagree. The service information is only included as related information and is not incorporated by reference. Therefore, it is not necessary to specify a revision level and date of the service information in the AD. The proposed AD did include the revision level and date, but we modified the AD to remove those details.

Request to Revise the P/Ns of the 1st Stage HPT Seal Support

Martinair, United, and P&W requested that the P/Ns of the 1st stage HPT seal support be changed because the 1st stage HPT seal support P/N is not generally tracked by itself, although the assembly P/N is. One commenter recommended mandating full incorporation of P&W SBs PW4ENG 72-721 and PW4G-100-72-166, while another commenter recommended including the assembly P/Ns.

We partially agree. We agree that the assembly P/Ns should be included for clarity because the 1st stage HPT seal support is not generally tracked by itself. The assembly includes the support and the mating brush seal. Even though they are sold as sets and generally tracked together, it is important to note that the unsafe condition has been identified on the HPT seal support and not the brush seal. We disagree that the SBs should be incorporated by reference because there are multiple acceptable methods of

performing the actions required by the AD. We changed paragraph (e)(1) of the AD to "Remove the 1st stage HPT seal support, P/N 55K601 (contained within assembly P/N 55K602-01) or P/N 50K532 (contained within assembly P/N 50K530-01), from service and replace it with a serviceable 1st stage HPT seal support."

Request to Revise the Cost of Compliance

United requested that we revise the costs of compliance because the latest parts cost is $48,695, not $45,723, as stated in the proposed AD (77 FR 23637, April 20, 2012).

We agree. We included the latest parts costs in the Costs of Compliance paragraph of the AD.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We also determined that, other than the updated parts cost, these changes will not increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

We estimate that this AD will affect 446 P&W PW4000-94" and PW4000-100" turbofan engines installed on airplanes of U.S. registry. We also estimate that it will take about 3 work-hours to perform the removal and replacement of the 1st stage HPT seal support, and the removal, inspection, and replacement if necessary of the 1st stage HPT air seal ring. The average labor rate is $85 per work-hour. Required parts will cost about $48,695 per engine. Based on these figures, we estimate the total cost of the AD to U.S. operators to be $21,831,700.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2012-18-03 **Pratt & Whitney Division:** Amendment 39-17179; Docket No. FAA-2012-0228; Directorate Identifier 2012-NE-09-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the following Pratt & Whitney Division turbofan engines:

(1) PW4000-94" engine models PW4050, PW4052, PW4056, PW4152, PW4156, PW4650, PW4060, PW4060A, PW4060C, PW4062, PW4062A, PW4156A, PW4158, PW4160, PW4460, and PW4462, including models with any dash-number suffix, with a 1st stage high-pressure turbine (HPT) seal support, part number (P/N) 55K601 (contained within assembly P/N 55K602-01) or P/N 50K532 (contained within assembly P/N 50K530-01), installed.

(2) PW4000-100" engine models PW4164, PW4164C, PW4164C/B, PW4168, and PW4168A with a 1st stage HPT seal support, P/N 55K601 (contained within

assembly P/N 55K602-01) or P/N 50K532 (contained within assembly P/N 50K530-01), installed.

(d) Unsafe Condition

This AD was prompted by 58 reports of cracked 1st stage HPT air seal rings, including 15 in-flight engine shutdowns. We are issuing this AD to prevent failure of the 1st stage HPT air seal ring, which could lead to an internal oil fire, uncontained engine failure, and damage to the airplane.

(e) Compliance

Comply with this AD the next time the HPT module is removed from the engine, unless already done.

(1) Remove the 1st stage HPT seal support, P/N 55K601 (contained within assembly P/N 55K602-01) or P/N 50K532 (contained within assembly P/N 50K530-01), from service and replace it with a serviceable 1st stage HPT seal support.

(2) Remove the 1st stage HPT air seal ring, P/N 50L664, from the engine and fluorescent-penetrant-inspect, or eddy current-inspect, it for cracks. If found cracked, remove the 1st stage HPT air seal ring from service.

(f) Definition

For the purpose of this AD, a serviceable 1st stage HPT seal support is one that has a P/N that is not listed in this AD.

(g) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

(h) Related Information

(1) For more information about this AD, contact James Gray, Aerospace Engineer, FAA, Engine & Propeller Directorate, 12 New England Executive Park,

Burlington, MA 01803; phone: 781-238-7742; fax: 781-238-7199; e-mail: james.e.gray@faa.gov.

(2) Pratt & Whitney Service Bulletin (SB) No. PWENG 72-721 and SB No. PW4G-100-72-166, pertain to the subject of this AD.

(3) For service information identified in this AD, contact Pratt & Whitney, 400 Main St., East Hartford, CT 06108; phone: 860-565-8770; fax: 860-565-4503.

(i) Material Incorporated by Reference

None.

Issued in Burlington, Massachusetts, on August 16, 2012.

Colleen M. D'Alessandro,
Assistant Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

[FR Doc. 2012-21821 Filed 09/05/2012 at 8:45 am; Publication Date: 09/06/2012]